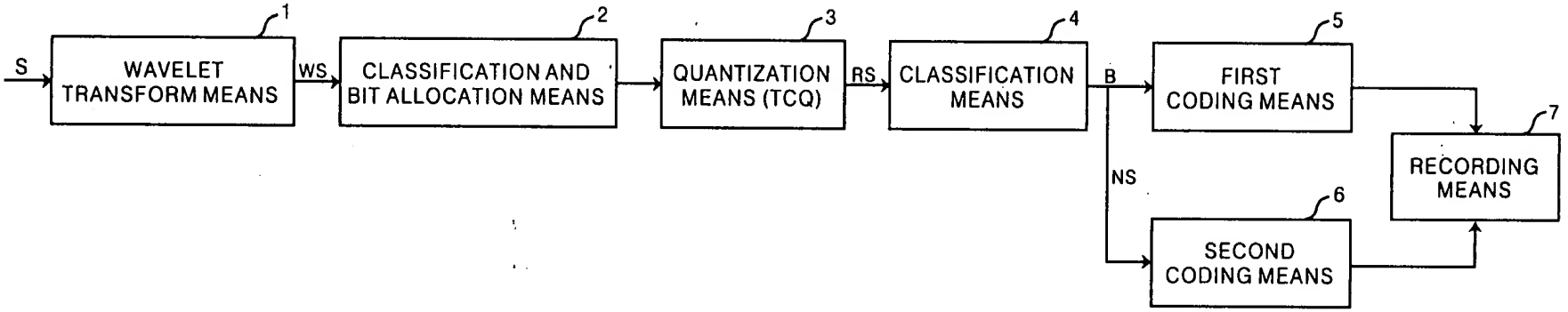
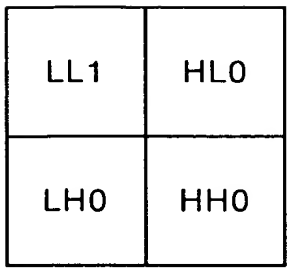
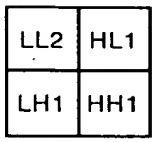
FIG.1


S
WAVELET TRANSFORM MEANS
1
WS
CLASSIFICATION AND BIT ALLOCATION MEANS
2
QUANTIZATION MEANS (TCQ)
3
RS
CLASSIFICATION MEANS
4
B
FIRST CODING MEANS
5
NS
SECOND CODING MEANS
6
RECORDING MEANS
7





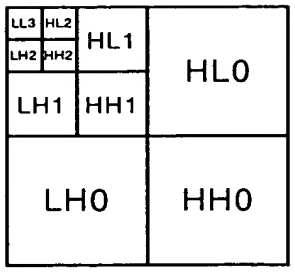


FIG.2a FIG.2b FIG.2c

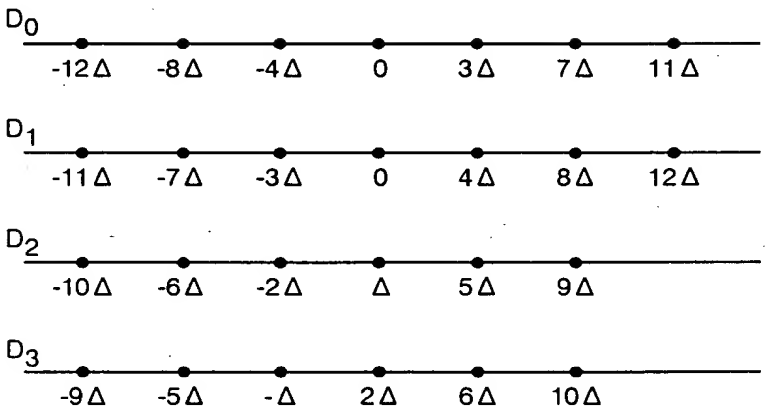


FIG.3

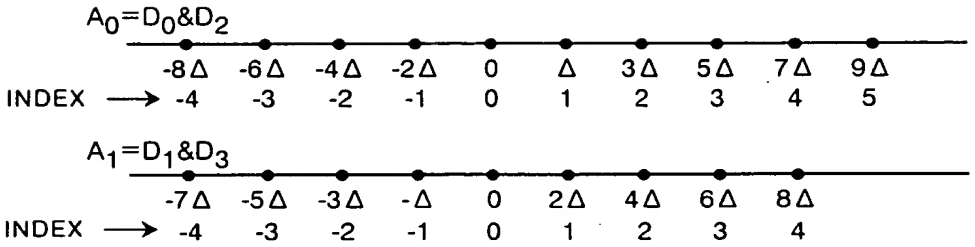

$A_0=D_0\&D_2$
-8Δ -6Δ -4Δ -2Δ 0 Δ 3Δ 5Δ 7Δ 9Δ
INDEX → -4 -3 -2 -1 0 1 2 3 4 5
$A_1=D_1\&D_3$
-7Δ -5Δ -3Δ -Δ 0 2Δ 4Δ 6Δ 8Δ
INDEX → -4 -3 -2 -1 0 1 2 3 4

FIG.4

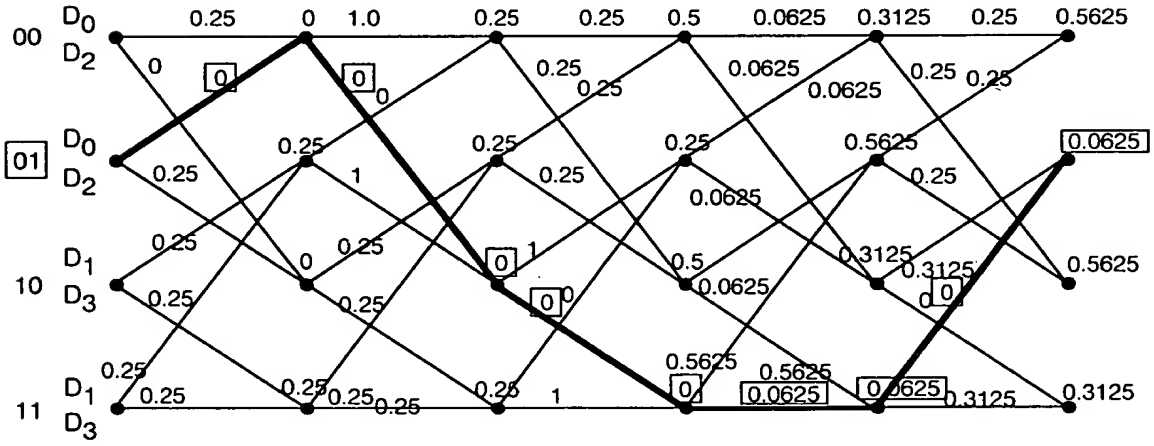

00 D_0 D_2
01 D_0 D_2
10 D_1 D_3
11 D_1 D_3
0.25 0 1.0 0.25 0.25 0.5 0.0625 0.3125 0.25 0.5625
0.0625
0.5625
0.3125

FIG.5

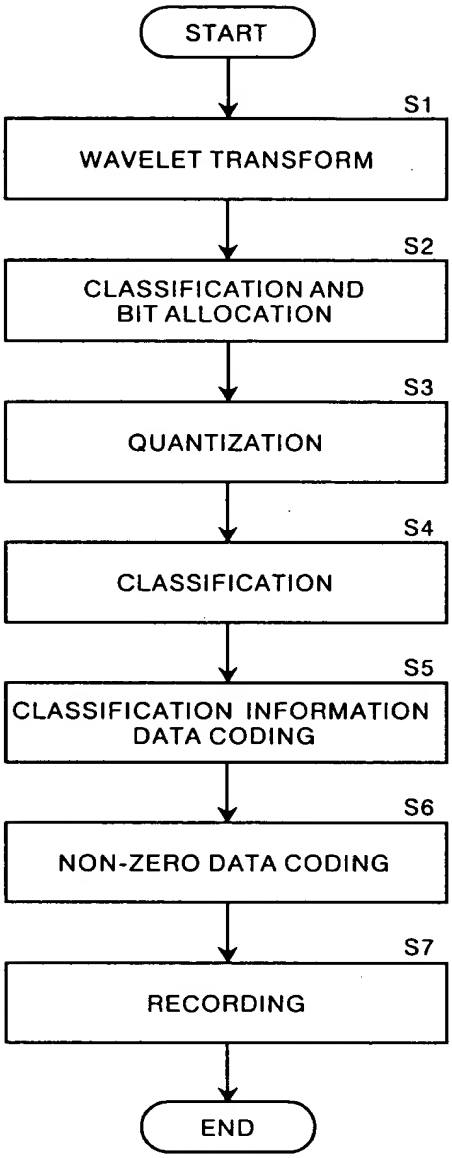

START
S1
WAVELET TRANSFORM
S2
CLASSIFICATION AND BIT ALLOCATION
S3
QUANTIZATION
S4
CLASSIFICATION
S5
CLASSIFICATION INFORMATION DATA CODING
S6
NON-ZERO DATA CODING
S7
RECORDING
END

FIG.6

6667207 5059560

FIG.7

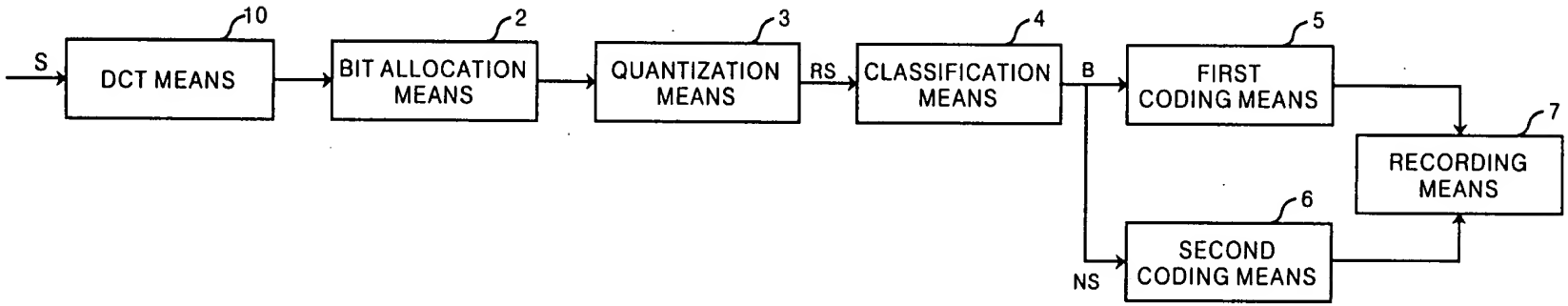
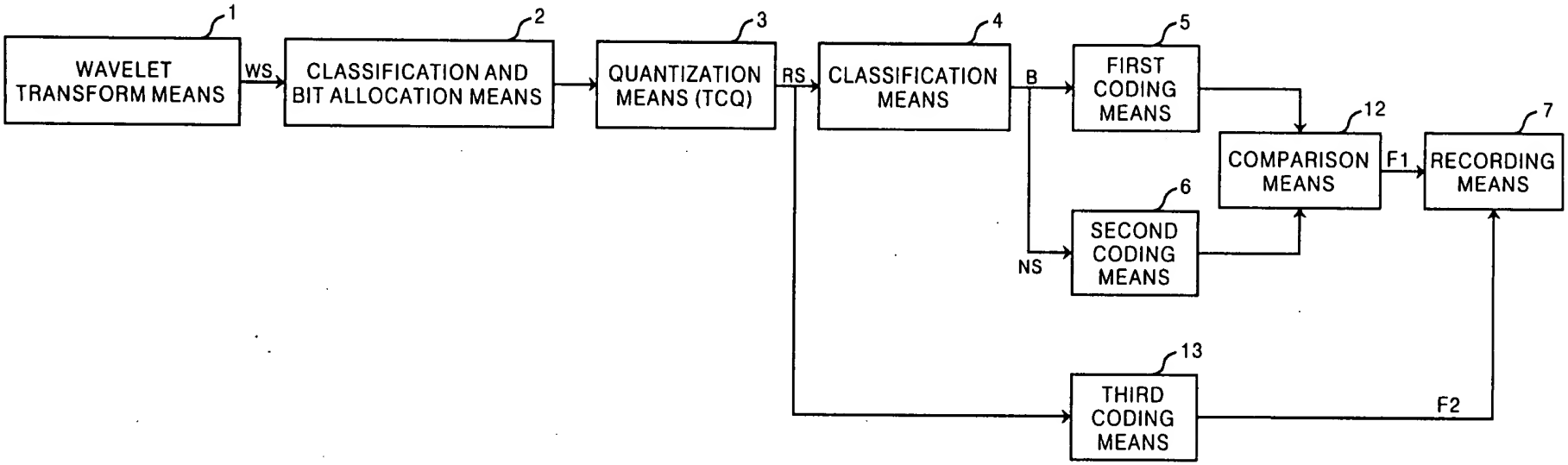


FIG.8


1
WAVELET TRANSFORM MEANS
WS
2
CLASSIFICATION AND BIT ALLOCATION MEANS
3
QUANTIZATION MEANS (TCQ)
RS
4
CLASSIFICATION MEANS
B
5
FIRST CODING MEANS
12
COMPARISON MEANS
F1
7
RECORDING MEANS
NS
6
SECOND CODING MEANS
13
THIRD CODING MEANS
F2

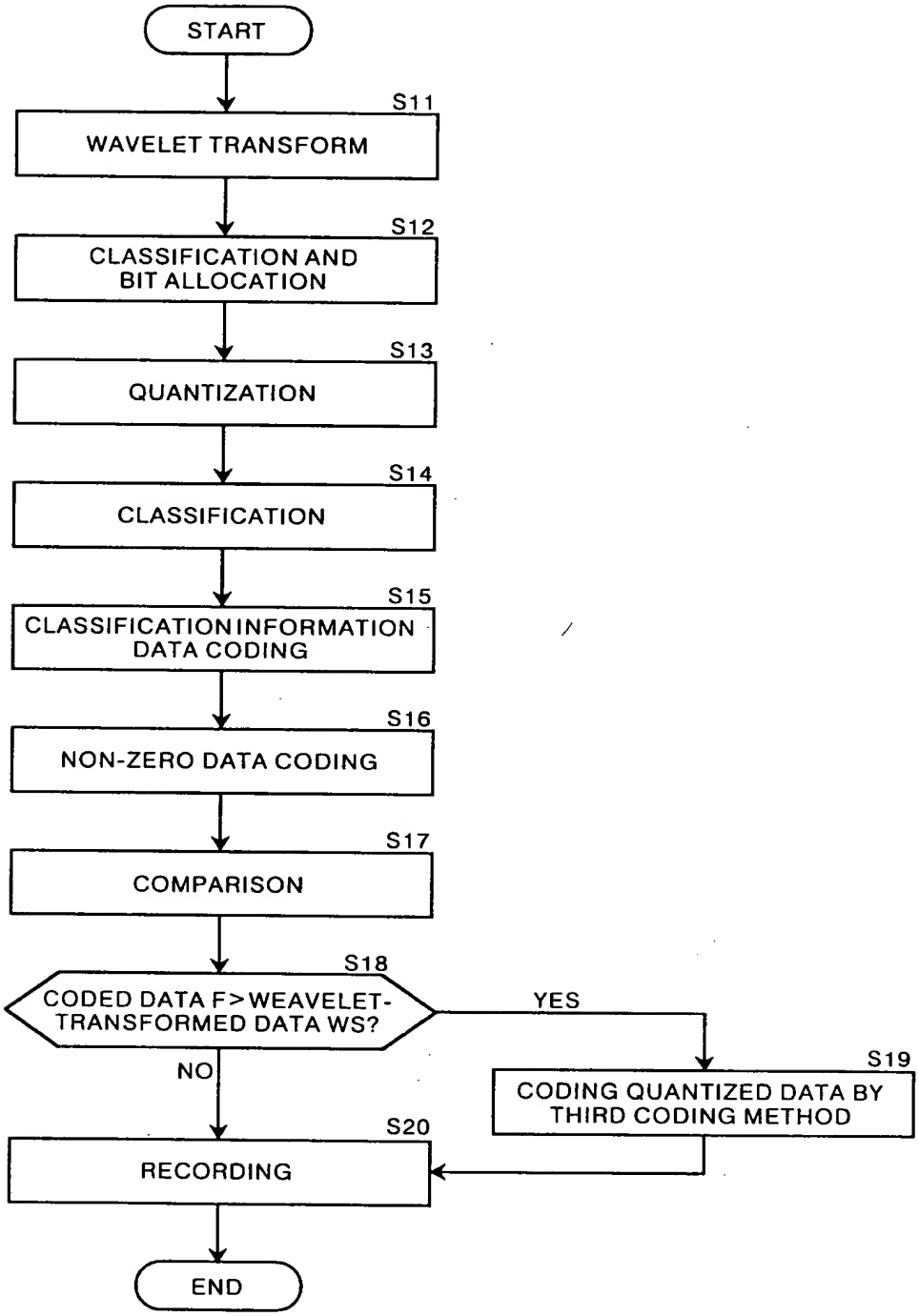

START
S11
WAVELET TRANSFORM
S12
CLASSIFICATION AND BIT ALLOCATION
S13
QUANTIZATION
S14
CLASSIFICATION
S15
CLASSIFICATION INFORMATION DATA CODING
S16
NON-ZERO DATA CODING
S17
COMPARISON
S18
CODED DATA F>WEAVELET-TRANSFORMED DATA WS?
YES
NO
S19
CODING QUANTIZED DATA BY THIRD CODING METHOD
S20
RECORDING
END

FIG.9

FIG.10

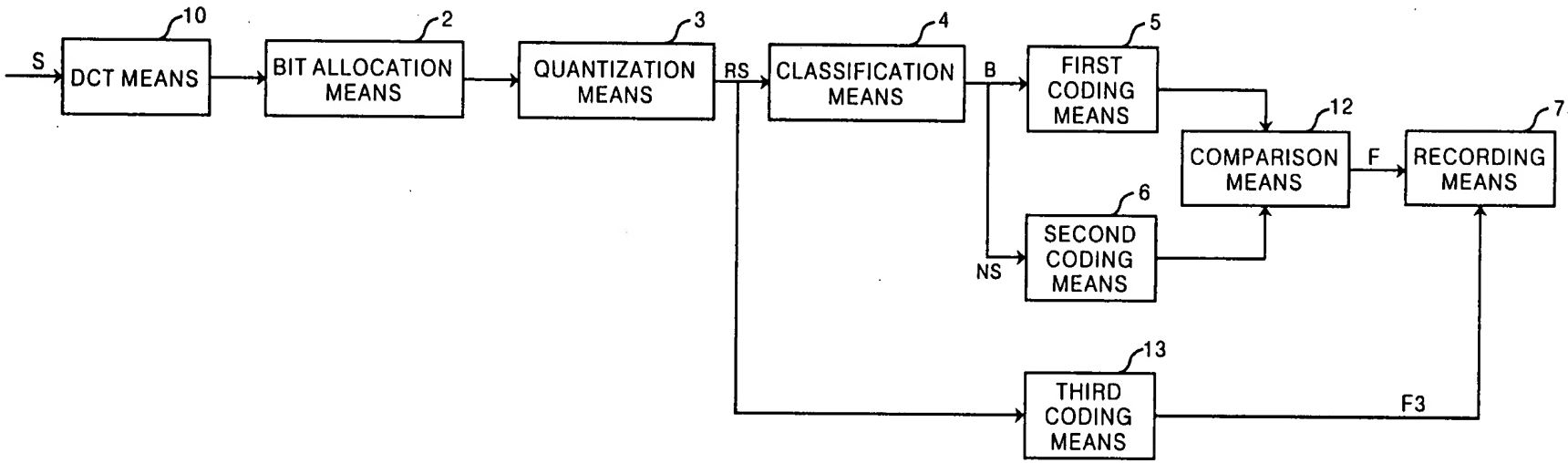

S
10
DCT MEANS
2
BIT ALLOCATION MEANS
3
QUANTIZATION MEANS
RS
4
CLASSIFICATION MEANS
B
5
FIRST CODING MEANS
12
COMPARISON MEANS
F
7
RECORDING MEANS
NS
6
SECOND CODING MEANS
13
THIRD CODING MEANS
F3

FIG.11

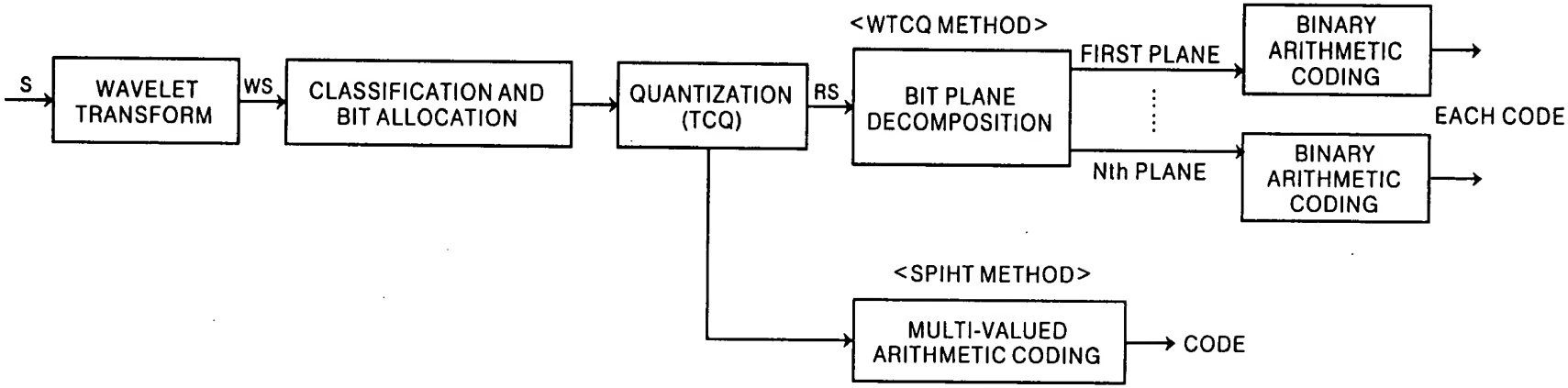
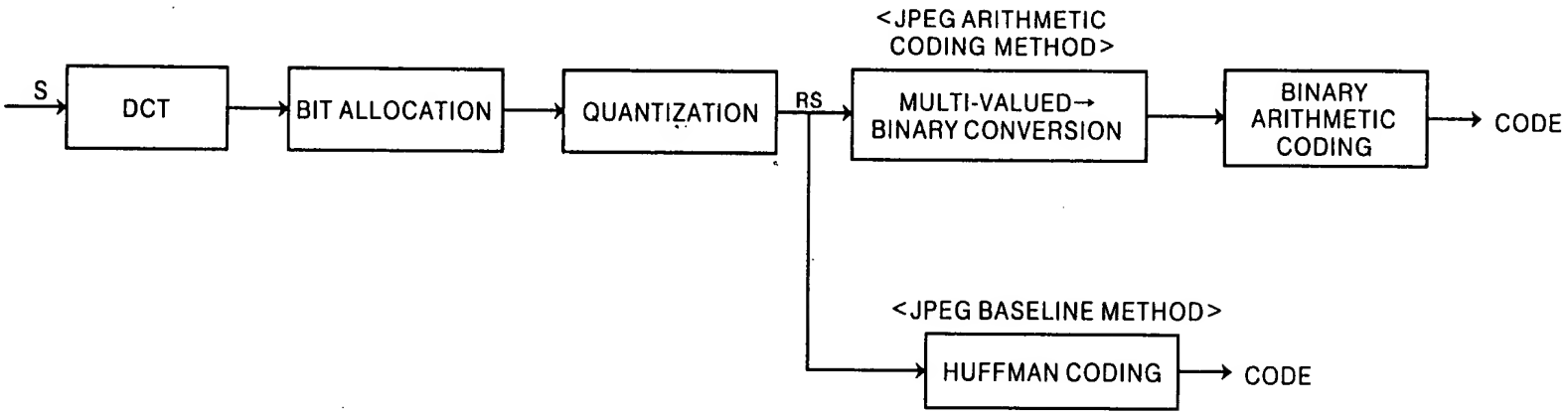

S
WAVELET TRANSFORM
WS
CLASSIFICATION AND BIT ALLOCATION
QUANTIZATION (TCQ)
RS
<WTCQ METHOD>
BIT PLANE DECOMPOSITION
FIRST PLANE
Nth PLANE
BINARY ARITHMETIC CODING
BINARY ARITHMETIC CODING
EACH CODE
<SPIHT METHOD>
MULTI-VALUED ARITHMETIC CODING
CODE

FIG.12


<JPEG ARITHMETIC CODING METHOD>
S
DCT
BIT ALLOCATION
QUANTIZATION
RS
MULTI-VALUED→ BINARY CONVERSION
BINARY ARITHMETIC CODING
CODE
<JPEG BASELINE METHOD>
HUFFMAN CODING
CODE